

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 23 February 2001 (23.02.01)	
International application No. PCT/US00/14976	Applicant's or agent's file reference MCA-464-PCT
International filing date (day/month/year) 31 May 2000 (31.05.00)	Priority date (day/month/year) 04 June 1999 (04.06.99)
Applicant STOCKBOWER, David, Windsor	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 07 November 2000 (07.11.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Kiwa Mpay
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

BEST AVAILABLE COPY

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

LEMACK, Kevin, S.
Niels & Lemack
Suite 8
176 E. Main Street
Westboro, MA 01581
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 22 octobre 2001 (22.10.01)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference MCA-464-PCT	
International application No. PCT/US00/14976	International filing date (day/month/year) 31 mai 2000 (31.05.00)

1. The following indications appeared on record concerning:		
<input checked="" type="checkbox"/> the applicant	<input type="checkbox"/> the inventor	<input type="checkbox"/> the agent
<input type="checkbox"/> the common representative		
Name and Address MILLIPORE CORPORATION 80 Ashby Road Bedford, MA 01730 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:		
<input type="checkbox"/> the person	<input checked="" type="checkbox"/> the name	<input checked="" type="checkbox"/> the address
<input type="checkbox"/> the nationality		
<input type="checkbox"/> the residence		
Name and Address MYKROLIS CORPORATION One Patriots Park Bedford, MA 01730 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	
3. Further observations, if necessary:		
4. A copy of this notification has been sent to:		
<input checked="" type="checkbox"/> the receiving Office	<input type="checkbox"/> the designated Offices concerned	
<input type="checkbox"/> the International Searching Authority	<input checked="" type="checkbox"/> the elected Offices concerned	
<input type="checkbox"/> the International Preliminary Examining Authority	<input type="checkbox"/> other:	

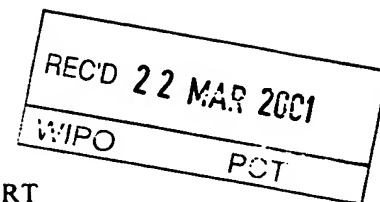
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Dorothee MÜLHAUSEN
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference MCA-464-PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/14976	International filing date (day/month/year) 31 MAY 2000	Priority date (day/month/year) 04 JUNE 1999
International Patent Classification (IPC) or national classification and IPC Please See Supplemental Sheet.		
Applicant MILLIPORE CORPORATION		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>4</u> sheets.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of <u>0</u> sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step or industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>

Date of submission of the demand 07 NOVEMBER 2000	Date of completion of this report 27 FEBRUARY 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer DONALD R. VALENTINE
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0661

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/14976

I. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed☒ the description:

pages 1-4, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of

☒ the claims:

pages 5-6, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages NONE, filed with the letter of

☒ the drawings:

pages 1-4, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of

☒ the sequence listing part of the description:

pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
☒ the claims, Nos. NONE
☒ the drawings, sheets/figs NONE

5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

**Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/14976

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. statement**

Novelty (N)	Claims <u>1-10</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-10</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-10</u>	YES
	Claims <u>NONE</u>	NO

2. citations and explanations (Rule 70.7)

Claims 1-10 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest an anode plating cell comprising a housing for the anode, hydrophobic and hydrophilic membranes downstream of the anode and further wherein a membrane, downstream of the anode, has a hydrophobic portion permeable to fluids and gases and a hydrophilic portion permeable to said fluids but not to said gases.

Claims 1-10 meet the criteria set out in PCT Article 33(4), because the invention has industrial applicability in the field of electroplating.

----- NEW CITATIONS -----

US 5,616,246 A (GAGNON et al) 01 APRIL 1997, see columns 16-18.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/14976

Supplemental B x

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

CLASSIFICATION:

The International Patent Classification (IPC) and/or the National classification are as listed below:

IPC(7): C25B 9/00, 11/03, 1104, 13/00; C25D 5/00, 5/20 and US Cl.: 204/266, 270, 278, 282, 283, 292; 205/88, 148, 338, 350

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



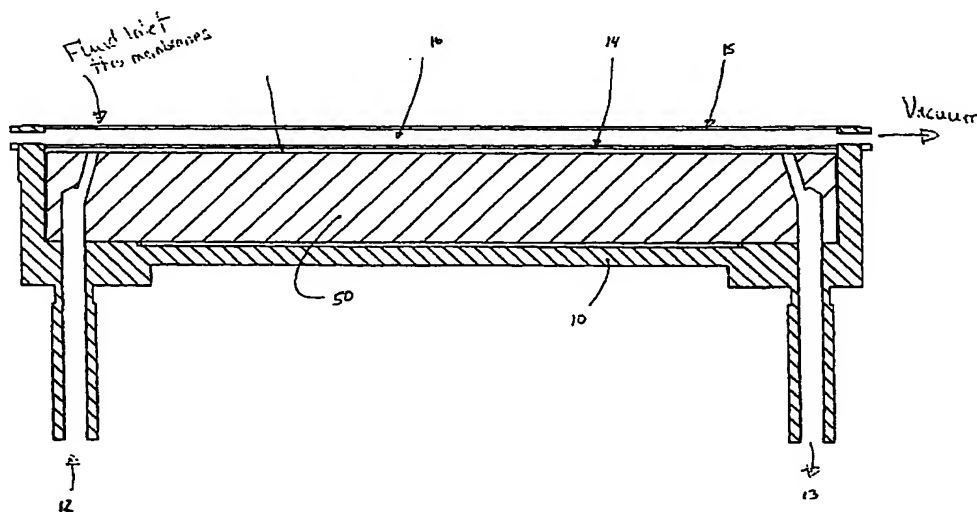
(43) International Publication Date
14 December 2000 (14.12.2000)

PCT

(10) International Publication Number
WO 00/75402 A1

- (51) International Patent Classification: C25B 9/00, 11/03, 11/04, 13/00, C25D 5/00, 5/20
- (21) International Application Number: PCT/US00/14976
- (22) International Filing Date: 31 May 2000 (31.05.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/137,558 4 June 1999 (04.06.1999) US
- (71) Applicant (for all designated States except US): MILLIPORE CORPORATION [US/US]; 80 Ashby Road, Bedford, MA 01730 (US).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): STOCKBOWER, David, Windsor [US/US]; 297 Commercial Street, Braintree, MA 02184 (US).
- (54) Agents: LEMACK, Kevin, S. et al.; Nields, Lemack & Dingman, Suite 8, 176 E. Main Street, Westboro, MA 01581 (US).
- (81) Designated States (national): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— With international search report.
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HYDROPHOBIC AND HYDROPHILIC MEMBRANES TO VENT TRAPPED GASES IN A PLATING CELL



(57) Abstract: A plating tool cell anode for venting unwanted gases from a fluid plating solution. In a first embodiment, the solution is introduced into a chamber, defined by the plating tool cell (10), by fluid inlet (12) and contacts the anode (50). The fluid encounters a hydrophobic membrane (14) and a hydrophilic membrane (15) spaced from the hydrophobic membrane. A driving force, such as a vacuum, is applied to the gap (16) between the membranes to remove unwanted gases therein. In a second embodiment, a single membrane is used that is both hydrophobic and hydrophilic. Preferably, the hydrophobic portion of the membrane is located at or near the perimeter of the chamber and gas to be vented is directed toward the hydrophobic portion(s).

WO 00/75402 A1

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/14976

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C25B 9/00, 11/03, 1104, 13/00; C25D 5/00, 5/20

US CL : 204/266, 270, 278, 282, 283, 292; 205/88, 148, 338, 350

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 204/266, 270, 278, 282, 283, 292; 205/88, 148, 338, 350

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched


Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,201,653 A (O'NEILL et al) 06 May 1980, see Figures and col. 4, lines 55-60.	1-3, 5-7, 9-10
Y	US 4,075,069 A (SHINOHARA et al) 21 February 1978, col. 2, lines 18-60 and Figures.	1-3, 5-7, 9-10
A	US 4,522,695 A (NEEFE) 11 June 1985	1
A	US 5,112,465 A (DANIELSON) 12 May 1992	1

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Z" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

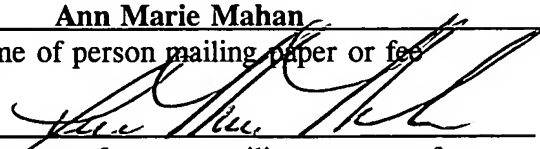
Date of the actual completion of the international search 01 AUGUST 2000	Date of mailing of the international search report 06 SEP 2000
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer  DONALD R. VALENTINE Telephone No. (703) 308-0661

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David W. Stockbower
Serial No. : Not yet assigned (PCT/US00/14976)
Filed : Herewith By Express Mail (31 May 2000)
For : HYDROPHOBIC AND HYDROPHILIC MEMBRANES TO VENT
TRAPPED GASES IN A PLATING CELL
Examiner : Not yet assigned
Art Unit : Not yet assigned
Attorney
Docket No. : MCA-464
Type of paper : Copy of the International Search Report

"EXPRESS MAIL" MAILING LABEL NO. ET121814003US
DATE OF DEPOSIT: December 4, 2001

I hereby certify that this patent application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Service under 37 CFR 1.10 on the date indicated above and is addressed to: Assistant Commissioner of Patents and Trademarks, **BOX: PCT**, Washington, D.C. 20231.

Ann Marie Mahan
Name of person mailing paper or fee

Signature of person mailing paper or fee

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/14976

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C25B 9/00, 11/03, 1104, 13/00; C25D 5/00, 5/20

US CL : 204/266, 270, 278, 282, 283, 292; 205/88, 148, 338, 350

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 204/266, 270, 278, 282, 283, 292; 205/88, 148, 338, 350

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,201,653 A (O'NEILL et al) 06 May 1980, see Figures and col. 4, lines 55-60.	1-3, 5-7, 9-10
Y	US 4,075,069 A (SHINOHARA et al) 21 February 1978, col. 2, lines 18-60 and Figures.	1-3, 5-7, 9-10
A	US 4,522,695 A (NEEFE) 11 June 1985	1
A	US 5,112,465 A (DANIELSON) 12 May 1992	1



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

01 AUGUST 2000

Date of mailing of the international search report

06 SEP 2000

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

DONALD R. VALENTINE

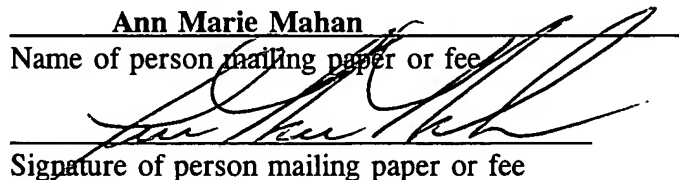
Telephone No. (703) 308-0661

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David W. Stockbower
Serial No. : Not yet assigned (PCT/US00/14976)
Filed : Herewith By Express Mail (31 May 2000)
For : HYDROPHOBIC AND HYDROPHILIC MEMBRANES TO VENT
TRAPPED GASES IN A PLATING CELL
Examiner : Not yet assigned
Art Unit : Not yet assigned
Attorney
Docket No. : MCA-464
Type of paper : Copy of the Notice Informing the Applicant of the Communication
of the International Application to the Designated Offices
(Form PCT/IB/308)

"EXPRESS MAIL" MAILING LABEL NO. ET121814003US
DATE OF DEPOSIT: December 4, 2001

I hereby certify that this patent application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Service under 37 CFR 1.10 on the date indicated above and is addressed to: Assistant Commissioner of Patents and Trademarks, **BOX: PCT**, Washington, D.C. 20231.

Ann Marie Mahan
Name of person mailing paper or fee

Signature of person mailing paper or fee

DEC 22 2000

PCT

NOTICE INFORMING THE APPLICANT OF THE
COMMUNICATION OF THE INTERNATIONAL
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

LEMACK, Kevin, S.
Nields, Lemack & Dingman
Suite 8
176 E. Main Street
Westboro, MA 01581
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 14 December 2000 (14.12.00)		
Applicant's or agent's file reference MCA-464-PCT		IMPORTANT NOTICE
International application No. PCT/US00/14976	International filing date (day/month/year) 31 May 2000 (31.05.00)	Priority date (day/month/year) 04 June 1999 (04.06.99)
Applicant MILLIPORE CORPORATION et al		

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:
AU,KP,KR,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE,AL,AM,AP,AT,AZ,BA,BB,BG,BR,BY,CA,CH,CN,CR,CU,CZ,DE,DK,DM,EA,EE,EP,ES,FI,GB,GD,
GE,GH,GM,HR,HU,ID,IL,IN,IS,JP,KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MA,MD,MG,MK,MN,MW,MX,
NO,NZ,OA,PL,PT,RO,RU,SD,SE,SG,SI,SK,SL,TJ,TM,TR,TT,TZ,UA,UG,UZ,VN,YU,ZA,ZW

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on
14 December 2000 (14.12.00) under No. WO 00/75402

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. (41-22) 740.14.35	Authorized officer J. Zahra Telephone No. (41-22) 338.83.38
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10/009744

531 Rec'd PCT/77 04 DEC 2001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David W. Stockbower
Serial No. : Not yet assigned (PCT/US00/14976)
Filed : Herewith By Express Mail (31 May 2000)
For : HYDROPHOBIC AND HYDROPHILIC MEMBRANES TO VENT
TRAPPED GASES IN A PLATING CELL
Examiner : Not yet assigned
Art Unit : Not yet assigned
Attorney
Docket No. : MCA-464
Type of paper : **Copy of the International Preliminary Examination Report**

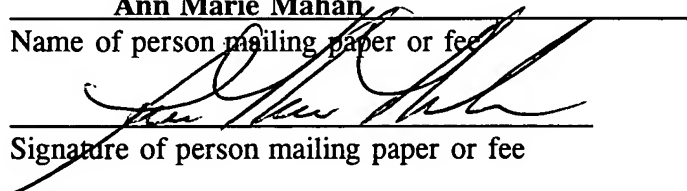
"EXPRESS MAIL" MAILING LABEL NO. ET121814003US

DATE OF DEPOSIT: December 4, 2001

I hereby certify that this patent application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Service under 37 CFR 1.10 on the date indicated above and is addressed to: Assistant Commissioner of Patents and Trademarks, **BOX: PCT**, Washington, D.C. 20231.

Ann Marie Mahan

Name of person mailing paper or fee


Signature of person mailing paper or fee

PATENT COOPERATION TREATY

MAR 21 2001

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: KEVIN S. LEMACK; HENRY C. NIELDS; BRIAN M. DINGMAN
NIELDS, LEMACK & DINGMAN
176 E. MAIN STREET - SUITE 8
WESTBORO, MASSACHUSETTS 01581

PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing
(day/month/year)

19 MAR 2001

Applicant's or agent's file reference

MCA-464-PCT

IMPORTANT NOTIFICATION

International application No.

PCT/US00/14976

International filing date (day/month/year)

31 MAY 2000

Priority Date (day/month/year)

04 JUNE 1999

Applicant

MILLIPORE CORPORATION

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US

Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

DONALD R. VALENTINE

Telephone No. (703) 308-0661

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: KEVIN S. LEMACK; HENRY C. NIELDS; BRIAN M. DINGMAN
NIELDS, LEMACK & DINGMAN
176 E. MAIN STREET - SUITE 8
WESTBORO, MASSACHUSETTS 01581

PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing
(day/month/year)

19 MAR 2001

Applicant's or agent's file reference

MCA-464-PCT

IMPORTANT NOTIFICATION

International application No.

PCT/US00/14976

International filing date (day/month/year)

31 MAY 2000

Priority Date (day/month/year)

04 JUNE 1999

Applicant

MILLIPORE CORPORATION

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

DONALD R. VALENTINE

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PATENT COOPERATION TREATY


PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference MCA-464-PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US00/14976	International filing date (day/month/year) 31 MAY 2000	Priority date (day/month/year) 04 JUNE 1999
International Patent Classification (IPC) or national classification and IPC Please See Supplemental Sheet.		
Applicant MILLIPORE CORPORATION		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>4</u> sheets. <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of <u>0</u> sheets.
3.	This report contains indications relating to the following items: <ul style="list-style-type: none"> I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of report with regard to novelty, inventive step or industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 07 NOVEMBER 2000	Date of completion of this report 27 FEBRUARY 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  DONALD R. VALENTINE
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0661

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/14976

I. Basis of the report**1. With regard to the elements of the international application:***

- ☒ the international application as originally filed
- ☒ the description:
pages 1-4 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____
- ☒ the claims:
pages 5-6 , as originally filed
pages NONE , as amended (together with any statement) under Article 19
pages NONE , filed with the demand
pages NONE , filed with the letter of _____
- ☒ the drawings:
pages 1-4 , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____
- ☒ the sequence listing part of the description:
pages NONE , as originally filed
pages NONE , filed with the demand
pages NONE , filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

- ☒ the description, pages NONE
- ☒ the claims, Nos. NONE
- ☒ the drawings, sheets/fig NONE

5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

**Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/14976

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. statement**

Novelty (N)	Claims <u>1-10</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>1-10</u>	YES
	Claims <u>NONE</u>	NO
Industrial Applicability (IA)	Claims <u>1-10</u>	YES
	Claims <u>NONE</u>	NO

2. citations and explanations (Rule 70.7)

Claims 1-10 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest an anode plating cell comprising a housing for the anode, hydrophobic and hydrophilic membranes downstream of the anode and further wherein a membrane, downstream of the anode, has a hydrophobic portion permeable to fluids and gases and a hydrophilic portion permeable to said fluids but not to said gases.

Claims 1-10 meet the criteria set out in PCT Article 33(4), because the invention has industrial applicability in the field of electroplating.

----- NEW CITATIONS -----

US 5,616,246 A (GAGNON et al) 01 APRIL 1997, see columns 16-18.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US00/14976

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

CLASSIFICATION:

The International Patent Classification (IPC) and/or the National classification are as listed below:

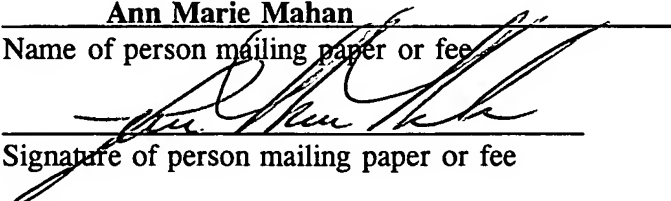
IPC(7): C25B 9/00, 11/03, 1104, 13/00; C25D 5/00, 5/20 and US Cl.: 204/266, 270, 278, 282, 283, 292; 205/88, 148, 338, 350

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David W. Stockbower
Serial No. : Not yet assigned (PCT/US00/14976)
Filed : Herewith By Express Mail (31 May 2000)
For : HYDROPHOBIC AND HYDROPHILIC MEMBRANES TO VENT
TRAPPED GASES IN A PLATING CELL
Examiner : Not yet assigned
Art Unit : Not yet assigned
Attorney
Docket No. : MCA-464
Type of paper : **Filing Fee**

"EXPRESS MAIL" MAILING LABEL NO. ET121814003US
DATE OF DEPOSIT: December 4, 2001

I hereby certify that this patent application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Service under 37 CFR 1.10 on the date indicated above and is addressed to: Assistant Commissioner of Patents and Trademarks, **BOX: PCT**, Washington, D.C. 20231.

Ann Marie Mahan
Name of person mailing paper or fee

Signature of person mailing paper or fee

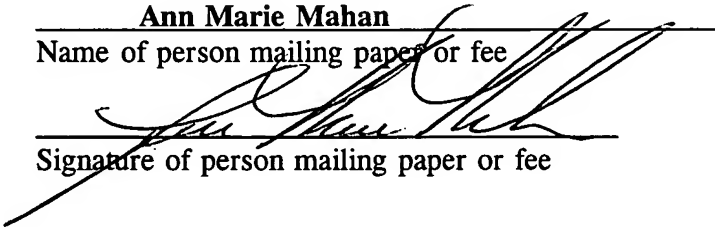
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : David W. Stockbower
Serial No. : Not yet assigned (PCT/US00/14976)
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For : HYDROPHOBIC AND HYDROPHILIC MEMBRANES TO VENT
TRAPPED GASES IN A PLATING CELL
Examiner : Not yet assigned
Art Unit : Not yet assigned
Attorney
Docket No. : MCA-464
Type of paper : Transmittal Letter to the United States Designated/Elected Office
(DO/EO/US) Concerning A Filing Under 35 U.S.C. 371

"EXPRESS MAIL" MAILING LABEL NO. ET121814003US
DATE OF DEPOSIT: December 4, 2001

I hereby certify that this patent application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Service under 37 CFR 1.10 on the date indicated above and is addressed to: Assistant Commissioner of Patents and Trademarks, **BOX: PCT**, Washington, D.C. 20231.

Ann Marie Mahan
Name of person mailing paper or fee


Signature of person mailing paper or fee

Attorney Docket No. MCA-464

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: **David W. Stockbower**

For: **HYDROPHOBIC AND HYDROPHILIC MEMBRANES TO VENT TRAPPED GASES
IN A PLATING CELL**

Assistant Commissioner of Patents and Trademarks

Box: PCT

Washington, D.C. 20231

Sir:

LETTER


The above-identified applicants enclose for filing the national phase of a PCT patent application (PCT/US00/14976) entitled "**HYDROPHOBIC AND HYDROPHILIC MEMBRANES TO VENT TRAPPED GASES IN THE PLATING CELL**". Said attached PCT patent application includes (1) Transmittal Letter to the United States Designated/Elected Office (DO/EO/US) Concerning a Filing Under 35 U.S.C. 371 (2-Pages)(in duplicate); (2) Check in the amount of \$314.00 in payment of the Filing Fee; (3) Copy of the International Preliminary Examination Report (6-Pages); (4) Copy of the International Search Report (1-Page); and (5) Copy of the Notice Informing the Applicant of the Communication of the International Application to the Designated Offices (Form PCT/IB/308)(1-Page).

EXECUTED DECLARATION WILL BE SUBMITTED IN DUE COURSE.

All correspondence concerning this application should be mailed to:

**Kevin S. Lemack
Niels & Lemack
176 E. Main Street
Westboro, Massachusetts 01581**

Respectfully submitted,


Kevin S. Lemack
Attorney for Applicant
Registration No. 32,579

Date: December 4, 2001

EXPRESS MAIL NO: ET121814003US

10/009744

JC14 Rec'd PCT/PTO 04 DEC 2001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

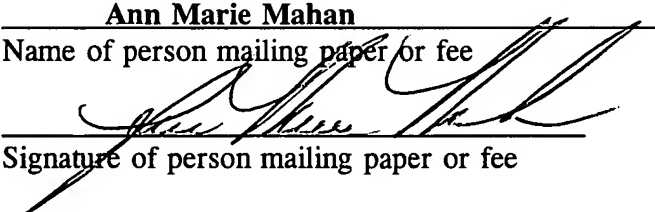
Applicant : David W. Stockbower
Serial No. : Not yet assigned (PCT/US00/14976)
Filed : Herewith By Express Mail (31 May 2000)
For : HYDROPHOBIC AND HYDROPHILIC MEMBRANES TO VENT
TRAPPED GASES IN A PLATING CELL
Examiner : Not yet assigned
Art Unit : Not yet assigned
Attorney
Docket No. : MCA-464
Type of paper : **Letter**

"EXPRESS MAIL" MAILING LABEL NO. **ET121814003US**
DATE OF DEPOSIT: December 4, 2001

I hereby certify that this patent application is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" Service under 37 CFR 1.10 on the date indicated above and is addressed to: Assistant Commissioner of Patents and Trademarks, **BOX: PCT**, Washington, D.C. 20231.

Ann Marie Mahan

Name of person mailing paper or fee


Signature of person mailing paper or fee

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US00/14976

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C25B 9/00, 11/03, 1104, 13/00; C25D 5/00, 5/20
US CL : 204/266, 270, 278, 282, 283, 292; 205/88, 148, 338, 350

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 204/266, 270, 278, 282, 283, 292; 205/88, 148, 338, 350

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,201,653 A (O'NEILL et al) 06 May 1980, see Figures and col. 4, lines 55-60.	1-3, 5-7, 9-10
Y	US 4,075,069 A (SHINOHARA et al) 21 February 1978, col. 2, lines 18-60 and Figures.	1-3, 5-7, 9-10
A	US 4,522,695 A (NEEFE) 11 June 1985	1
A	US 5,112,465 A (DANIELSON) 12 May 1992	1



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier document published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

01 AUGUST 2000

Date of mailing of the international search report

06 SEP 2000

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

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Authorized officer:

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